THREE ELEMENT COAXIAL VASO-OCCLUSIVE DEVICE

ABSTRACT OF THE DISCLOSURE

A vaso-occlusive device includes inner, intermediate, and outer elements arranged coaxially. The inner element is a filamentous element, preferably a microcoil. The intermediate element is made of a non-metallic material, preferably an expansile polymer. The outer element is substantially non-expansile and defines at least one gap or opening through which the intermediate element is exposed. In a preferred embodiment, when the intermediate element is expanded, it protrudes through the at least one gap or opening in the outer element and assumes a configuration with an undulating, convexly-curved outer surface defining a chain of arcuate segments, each having a diameter significantly greater than the diameter of the outer element. The expanded configuration of the intermediate element minimizes friction when the device is deployed through a microcatheter, thereby reducing the likelihood of buckling while maintaining excellent flexibility. The result is a device with enhanced pushability and trackability when deployed through a microcatheter.